

In The Claims:

1                   1. A mobile wireless communication system  
2 for a variety of different mobile user types,  
3 comprising:

4                   a plurality of individual transponding  
5 nodes;

6                   a plurality of individual resource cells  
7 each associated with a particular one of said  
8 plurality of transponding nodes and one of a  
9 plurality of available CDMA codes; and

10                  a plurality of mobile terminals, each of  
11 which is assigned to operate in one or more of said  
12 plurality of individual resource cells;

13                  wherein each of said plurality of  
14 individual resource cells is assigned to at most one  
15 of said plurality of mobile terminals at any one  
16 time.

1                   2. The system of claim 1, further  
2 comprising:

3                   a central processing hub, which establishes  
4 links to one or more of said users through one or  
5 more of said plurality of transponding nodes wherein  
6 the specific transponding node and codes used to  
7 complete each of said links is determined by the  
8 resource cells assigned to the user;

9                   wherein said central processing hub pre-  
10 processes signals for forward link transmission such

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11 that they are radiated with compensating time delays  
12 to an intended one of said plurality of mobile users  
13 who coherently receives all such signals intended for  
14 him;

15 wherein said central processing hub post-  
16 processes received signals to introduce compensating  
17 time delays such that all such signals received from  
18 a particular remote user may be coherently processed  
19 together.

1                   3. The system of claim 1, wherein each of  
2 said plurality of individual transponding nodes is  
3 independently selected from one of the following  
4 system types: a space-based system, a high altitude  
5 platform system, a tower based cellular network, or a  
6 manned/unmanned aircraft.

1                   4. The system of claim 2, wherein at  
2 least one said plurality of mobile terminals is  
3 assigned resource cells in platform-code space for  
4 said return link that are different from said  
5 resource cells in platform-code space assigned for  
6 said forward link.

1                   5. The system of claim 3, wherein said  
2 high altitude platform system is comprised of a  
3 plurality of manned/unmanned airships.

1                   6. The system of claim 3, wherein said  
2 high altitude platform system is comprised of a  
3 plurality of high altitude balloons.

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1                   7. The system of claim 3, wherein said  
2 plurality of individual transponder nodes are all of  
3 the same type.

1                   8. The system of claim 3, wherein said  
2 plurality of individual transponder nodes are not all  
3 of the same type.

1                   9. A method for establishing a plurality  
2 of communication links to a plurality of different  
3 users, comprising:

4                   providing a plurality of individual  
5 transponding nodes;

6                   processing a plurality of local user  
7 signals at a ground hub to compensate for  
8 differential propagation delays to any one of a  
9 plurality of remote users;

10                  assigning each of said plurality of remote  
11 users one or more resource cells in platform-code  
12 space;

13                  wherein said resource cells assigned to a  
14 user for use on the forward link may or not be the  
15 same as those assigned for use on the return link;

16                  wherein each resource cell assigned to a  
17 particular user enables him to transmit signals to or  
18 from the hub through a particular transponder node  
19 using a particular CDMA code.

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1                   10. The method of claim 9, wherein at  
2 least one of said plurality of transponder nodes is  
3 selected from a high altitude platform system.

1                   11. The method of claim 10, wherein said  
2 high altitude platform system includes a plurality of  
3 manned/unmanned airships.

1                   12. The method of claim 10, wherein said  
2 high altitude platform system is comprised of a  
3 plurality of high altitude balloons.

1                   13. The method of claim 9, wherein at  
2 least one of said plurality of transponder nodes is  
3 selected from a tower based cellular network.

1                   14. The method of claim 10, wherein at  
2 least one of said plurality of transponder nodes is  
3 selected from a space based system.

1                   15. A mobile wireless communication system  
2 for a variety of different mobile user types,  
3 comprising:

4                   a plurality of individual transponder  
5 nodes, each having an established link with a ground  
6 hub;

7                   a plurality of individual resource cells  
8 each associated with one of said plurality of  
9 transponder nodes and one of a plurality of codes;  
10 and

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11                   a plurality of remote users having an  
12 established link with said ground hub, and each being  
13 assigned one or more of said plurality of individual  
14 resource cells in code-platform space.

1                   16. The system of claim 15, wherein each  
2 of said plurality of individual transponder nodes is  
3 selected from among the following platforms: a  
4 space-based system, a tower-based cellular network, a  
5 manned/unmanned aircraft or a high altitude platform  
6 system.

1                   17. The system of claim 16, wherein said  
2 high altitude platform system is comprised of a  
3 plurality of manned/unmanned airships.

1                   18. The system of claim 16, wherein said  
2 high altitude platform system is comprised of a  
3 plurality of high altitude balloons.

1                   19. The system of claim 16, wherein said  
2 plurality of individual transponder nodes are  
3 selected from the same platform.

1                   20. The system of claim 16, wherein said  
2 plurality of individual transponder nodes are  
3 selected from at least two of the platforms.

1                   21. The system of claim 16, wherein said  
2 ground hub pre-processes signals for forward link  
3 transmission and post-processes signals for return  
4 link reception.

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1                   22. The system of claim 21, wherein at  
2 least one of said plurality of mobile terminals is  
3 assigned resource cells in platform-code space for  
4 said return link that are different from those  
5 assigned for said forward link.

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